IN THE CLAIMS

Please amend the status of the claims as indicated below:

Claims 1-12 (canceled)

13. (new) An apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract by measuring alternating pressure (dp) in a region of the patient's mouth after producing an oscillating air pressure signal, comprising:

a mouthpiece;

an electroacoustic transducer having an oscillation system for generating an oscillating air pressure signal;

a tube for connecting said electroacoustic transducer to said mouthpiece;

a reference resistance for determining a reference impedance (Z_{ref});

computing means for calculating impedance (Z_{aw}) of a patient's respiratory tract based upon said reference impedance (Z_{ref}) of said reference resistance, total impedance (Z_{ges}) and total phase angle (Φ); and,

means for contactlessly measuring change in deflections of said oscillation system of said electroacoustic transducer caused by alternating pressure (dp) of the patient's breathing.

14. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said electroacoustic transducer is a loudspeaker with said oscillation system of said electroacoustic transducer forming an oscillation sys-

tem of a microphone for said loudspeaker with measurement of said change in deflections of said oscillation system taking place during generation of said oscillating air pressure signal.

15. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said oscillation system is a movable, stiff diaphragm comprising a moisture-resistant material.

16. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said oscillation system is a movable, stiff diaphragm comprising sheet metal.

17. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said electroacoustic transducer is an electrodynamic transducer.

18. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said electroacoustic transducer is an electromagnetic transducer.

19. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said electroacoustic transducer is a piezoelectric transducer.

20. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said electroacoustic transducer is piezoresistive transducer.

21. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said means for contactlessly measuring change in deflections of said oscillation system is carried out via inductive measuring means.

22. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 21, wherein said inductive measuring means includes an induction-generating conductor applied to said oscillation system and a positively fixed induction coil installed proximate to said induction-generating conductor.

23. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said means for contactlessly measuring change in deflections of said oscillation system is carried out via capacitative measuring means.

24. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 23, wherein said capacitative measuring means comprises an electrically conductive element acting on said oscillation system with a positionally fixed electrode forming a capacitor for capacitative measurement of the change of said deflections of said oscillation system.

25. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said means for contactlessly measuring change

in deflections of said oscillation system is carried out via optical measuring means.

26. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 25, wherein said optical measuring means comprises an optical detector or reflector applied to said oscillation system at, at least, one point onto which a laser beam is directed.

27. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said means for contactlessly measuring change in deflections of said oscillation system is carried via piezoelectric measuring means.

28. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said reference resistance includes an air tube open at a first end with a second end of said air tube being connected to said mouthpiece and has a calibrated, predeterminable reference impedance (Z_{ref}).

29. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 28, wherein said air tube forming said reference resistance is cylindrically flared at said first end facing away from said mouthpiece with said air tube being connected to a sieve resistance.

30. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 28, wherein said tube forming said reference resistance is conically flared at said first end facing away from said mouthpiece with said air tube being connected to a sieve resistance.

31. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said mouthpiece is a breathing mask for enclosing the patient's mouth and nose openings in an airtight manner.

32. (new) The apparatus for determining impedance (Z_{aw}) of a patient's respiratory tract according to Claim 13, wherein said computing means for calculating impedance (Z_{aw}) of a patient's respiratory tract includes a monitor and an output device comprising a printer.